Leybold

Phoenix Mobilis Ultra

Instruction manual

Operating instructions 301205345_002_C1

Original instructions

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We accept no liability for loss of profit, loss of market or any other indirect or consequential loss whatsoever.

Product warranty and limit of liability are dealt with in our standard terms and conditions of sale or negotiated contract under which this document is supplied.

You must use this product as described in this manual. Read the manual before you install, operate, or maintain the product.

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1 Safety and compliance

For safe operation from the start, read these instructions carefully before you install or commission the equipment and keep them safe for future use. Read all the safety instructions in this section and the rest of this manual carefully and make sure that you obey these instructions.

The instruction manual is an important safety document that we often deliver digitally. It is your responsibility to keep the instruction manual available and visible while working with the equipment. Please download the digital version of the instruction manual for use on your device or print it if a device will not be available.

1.1 Definition of Warnings and Cautions

Important safety information is highlighted as warning and caution instructions which are defined as follows. Different symbols are used according to the type of hazard.

WARNING:

If you do not obey a warning, there is a risk of injury or death.

CAUTION:

If you do not obey a caution, there is a risk of minor injury, damage to equipment, related equipment or process.

NOTICE:

Information about properties or instructions for an action which, if ignored, will cause damage to the equipment.

We reserve the right to change the design and the stated data. The illustrations are not binding.

1.2 Trained personnel

For the operation of this equipment “trained personnel” are:

- skilled workers with knowledge in the fields of mechanics, electrical engineering, pollution abatement and vacuum technology and
- personnel specially trained for the operation of vacuum pumps

Safety and compliance

1.3 Safety symbols

The safety symbols on the products show the areas where care and attention is necessary.

The safety symbols that we use on the product or in the product documentation have the following meanings:

	**Warning/Caution** Risk of injury and/or damage to equipment. An appropriate safety instruction must be followed or a potential hazard exists.
	**Warning - Toxic material** Risk of injury or damage to the environment. Identifies a source of toxic gases, liquid or material.

2 Introduction

2.1 Description

Phoenix Mobilis Ultra is predominantly used for detecting gas leaks and can detect almost all gases to varying degrees.

Phoenix Mobilis Ultra uses thermal conductivity as it's means of detecting gas, which offers a robust sensor technology that requires practically no maintenance beyond annual servicing. The instrument has an easy-to-use graphical interface with an intuitive keypad allowing simple functionality selection and adjustment. The instrument has a colored LCD display, LED indicator and audible sounder that indicates the detected signal.

Common applications where Phoenix Mobilis Ultra is used:

- Quality assurance - Testing seal integrity after product manufacture
- Laboratory applications - Detection of leaks from mass spectrometers and chromatograph equipment
- Industrial - Leaks from gas cylinders, pipe work and process equipment
- Medical - Testing of membrane materials and sealing of glove boxes
- Pneumatic - Valve seal testing

Phoenix Mobilis Ultra is calibrated against a 5 x 10^{-4} cc/s Helium leak to allow volumetric readings and a 5000 ppm Helium to allow measurement of concentrations.

2.1.1 Table: Selectable units

Selectable units:

cc/sec	Cubic Centimeters per Second offers a reading that indicates the volume of gas escaping into atmosphere from a single point. ie. leakage from a hole in a gas filled vessel or pipe.
ppm	Parts Per Million is a concentration reading, the instrument will display the concentration being detected however it is more difficult to gauge the quantity of leakage.
mg/m^3	Milligrams per meter cubed is also a unit that measures concentration. (See ppm above)
g/yr	Grams per Year is an alternative measure of leak rate.
%Vol	This is a measure of the percentage of the target gas in the environment.

2.2 Principle of operation

Thermal conductivity

All gases conduct heat but by varying amounts, if an object is heated and then the source of heat is removed, the object will eventually cool down to match ambient air temperature. This action occurs because the ambient air surrounding the object carries the excess heat into the surrounding atmosphere.

This principal is also the same for objects that are cooler than the surrounding ambient air.

Dissipation of heat into an air atmosphere is known and is a predictable rate, however, if the ambient air is replaced with an alternative gas like Helium the rate at which an object cools down changes.

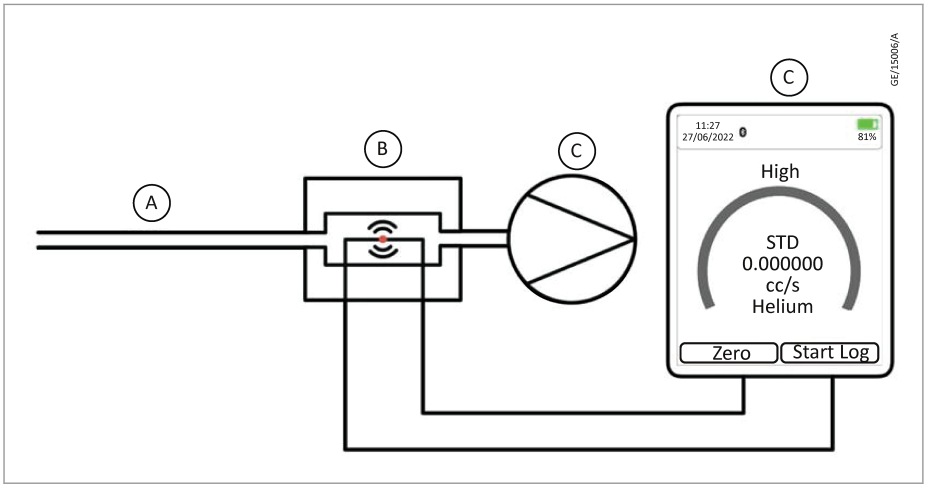
Introduction

If the object mentioned above had its environment replaced with pure Helium it would cool down to the environment temperature about 6 times faster.

The instrument contains a heated thermistor bead that transmits heat into the sensing chamber. On the other side of the sensing chamber there is a block of material that remains at a constant temperature helping to stabilise the signal. As air passes through the detector chamber a constant amount of heat passes from the bead to the air. Gases that are different to air will affect the rate at which heat transmits, these rates of change are measured and displayed as leak rates.

Thermal conductivity sensor

A piezo pump draws a small flow of gas through the probe and into the sensing chamber. The thermistor bead heats up when electrical power is applied. As air passes through the chamber a constant level of heat is transmitted to the air, this rate of heat transmission is used to 'Zero' the instrument.



When gases with different thermal qualities pass through the chamber, the amount of heat being transmitted changes. These changes are measured and used to calculate a display reading for leak rates or gas concentrations.

CAUTION: CONFIGURE THE INSTRUMENT FOR SPECIFIC GASES

Some gases have similar thermal properties to that of air; therefore, the instrument can only detect larger concentrations of these gases.

The instrument can NOT differentiate between gases, selecting a specific gas allows the instrument to calculate concentrations of that gas only if that gas is being detected.

3 Technical data

Table 1. Technical data

Parameter	Value
Detector	Micro thermal conductivity detector (MTCD)
Battery type	Rechargeable Li-ion Battery
Battery life	20 hours
Audible alarm	≥ 90 dBa at 10 cm
Factory calibration	At 50 % relative humidity (room temperature): 5000 ppm Helium (± 5%) Leak: 0.0005 cc/sec (± 5%)
Data logging	10 days continuous
Sensitivity	Helium: 5 x 10^{-6} Hydrogen: 3.8 x 10^{-6}
Response (T90)	1 second
Flow rate	2 cc/s
Ingress protection	IP44
Temperature	Operating: 0°C to 50°C
Humidity	0 – 99% Relative humidity
Weight	447 g (approximately)
Dimensions	320 x 80 x 55 mm (approximately)

Technical data

Table 2 Gas sensitivity chart

Gas Type Name	Trade Name	Chemical Formula	Molecular Weight	Response Factor (H=1)	PPM	cc/sec	mg/m^3	g/yr	Calc. (C) or Tested (T)	Gas Group 1-5	Conductivity at 400 K (mW/mK)	Conductivity vs air (mW/mK)
Air									33.3	0		
GAS GROUP 1a			6.0	1								
GAS GROUP 1b			150.0	1								
GAS GROUP 2a			15.0	2.5								
GAS GROUP 2b			84.0	2.5								
GAS GROUP 3a			20.0	4								
GAS GROUP 3b			61.0	4								
GAS GROUP 4a			26.0	8								
GAS GROUP 4b			48.0	8								
GAS GROUP 5			36.0	16								
Helium		He	4.0	1.000	150	5.0E-06	25	0.026	T	1	190.6	157.3
Hydrogen		H_2	2.0	0.648	97	3.02E-06	8	0.008	T	1	230.4	197.1
Sulfur hexafluoride		SF_6	146.1	1.448	217	7.2E-06	1298	1.354	C	1	20.8	-12.1
Xenon		Xe	131.3	1.447	217	7.2E-06	1165	1.225	T	1	7.3	-26
m-Xylene		C_8H_{10}	106.0	1.868	280	9.3E-06	1215	1.227	C	1	17.71	-15.9
Perfluorocyclobutane	C318	C_4F_8	200.0	1.187	178	5.9E-06	1457	1.531	C	1	19.5	-13.8
Toluene		C_7H_8	92.0	2.142	321	1.1E-05	1209	1.271	C	2	19.3	-14
Ammonia		NH_3	17.0	2.854	428	1.4E-05	298	0.313	C	2	37.4	4.1
Pentane		C_5H_{12}	72.2	2.861	429	1.4E-05	1266	1.331	C	2	24.9	-8.4
Tetrafluoropropene	R1234yf	$C_3H_2F_4$	114.0	2.483	372	1.2E-05	1736	1.825	T	2		
Tetrafluoroethane	R134a	$C_2H_2F_4$	102.0	2.880	432	1.4E-05	1803	1.895	T	2	14.0	-19.3
Tetra fluoromethane	R14	CF_4	88.0	2.246	337	1.1E-05	1212	1.274	C	2	24.1	-9.2

Gas Type Name	Trade Name	Chemical Formula	Molecular Weight	Response Factor (H=1)	PPM	cc/sec	mg/m^3	g/yr	Calc. (C) or Tested (T)	Gas Group 1-5	Conductivity at 400 K (mW/mK)	Conductivity vs air (mW/mK)
Methane		CH_4	16.0	4.007	601	2.0E-05	394	0.415	T	3	49.1	15.8
Isobutane	R600a	C_4H_{10}	58.1	3.847	428	1.4E-05	298	0.313	C	2	37.4	4.1
Isopropanol		C_3H_8O	60.0	3.847	683	2.3E-05	1624	1.708	T	3	28.4	-4.9
Butane		C_4H_{10}	58.1	4.556	683	2.3E-05	1624	1.708	T	3	28.4	-4.9
Isobutylene		C_4H_8	55.1	3.576	536	1.8E-05	1209	1.271	T	3		
Sulfur dioxide		SO_2	64.1	3.428	514	1.7E-05	1347	1.416	C	3	14.3	-19
Ethylene oxide		C_2H_4O	54.0	4.785	718	2.4E-05	1585	1.666	C	3	25.0	-8.3
Argon		Ar	40.0	6.599	990	3.3E-05	1617	1.700	T	4	22.6	-10.7
Carbon dioxide	R774	CO_2	44.0	5.576	836	2.8E-05	1506	1.583	T	4	25.1	-8.2
Propane		C_3H_8	44.1	6.115	917	3.1E-05	1654	1.739	T	4	30.6	-2.7
Nitrogen		N_2	28.0	9.182	1377	4.6E-05	1578	1.659	C	4	32.3	-1
Nitrous oxide		N_2O	44.0	7.299	1095	3.6E-05	1971	2.072	T	4	26.0	-7.3
Acetylene		C_2H_2	26.0	6.907	1036	3.5E-05	1103	1.160	C	4	45.4	12.1
Ethylene		C_2H_4	28.1	9.329	1399	4.7E-05	1605	1.688	C	4	34.6	1.3
Carbon monoxide		CO	28.0	9.182	1377	4.6E-05	1578	1.659	C	4	32.3	-1
Methanol		CH_4O	32.0	22.582	3387	1.1E-04	4439	4.666	C	5	26.2	-7.1
Oxygen		O_2	32.0	22.582	3387	1.1E-04	4433	4.660	C	5	33.7	0.4
Nitric oxide		NO	30.0	13.241	1986	6.6E-05	2438	2.563	C	5	33.1	-0.2

4 Installation

Remove all packaging materials, then open the storage case and inspect the equipment. If the storage case or any other item is damaged, notify your supplier and the carrier in writing within three days; state the Item number and the Serial number stamped on rear case of the instrument, together with your order number and your supplier's invoice number.

Do not use the instrument if any item is damaged.

4.1 Supplied equipment

Please remove all packing material and then check the content of the carry case against the list below before use. If the instrument or any accessory appear damaged or missing then contact the instrument supplier for advice before use.

- Phoenix Mobilis Ultra Case kit
- Cable USB A male to USB C male - 1 m
- Box spanner - 5/16, 3/8
- Manual sheet
- Flexible probe body assembly
- Standard capillary probe
- Capillary probe - short (for 200 mm flexible probe)
- Standard nozzle
- Communication interface dongle

5 Operation

CAUTION: HAZARDOUS GASES

The instruments range is NOT intrinsically safe so should not be used in a potentially explosive environment.

The instrument is NOT 'Gas Specific' i.e. It can NOT differentiate between gases.

CAUTION: INTERFERENCE WITH INSTRUMENT

Accuracy of gas measurement may be susceptible to interference from other devices within close proximity which emit an EMC frequency in the range of 345 to 470 MHz.

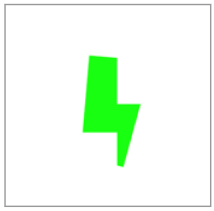
Ambient air pressure, heat and humidity can also affect readings.

5.1 Getting started

5.1.1 Charging the instrument

To charge your instrument, use a USB A to Type C Charger cable and connect it to the back of the device.

The instrument will indicate its charging by showing the following symbol at the top right of the home screen.



5.1.2 The Keypad

This section explains the general functionality of each key:-

Operation

Figure 1. Keypad

1	'A'	Press ‘A’ to zero the readings. This will remove any background readings and return the display back to near zero.
2	'B'	Press ‘B’ to start data-logging. Press a second time and the data-logging will finish.
3	UP	Use to scroll up on the LCD display and change sensitivity.
4	RIGHT	Use to scroll right on the LCD display.
5	SELECT/MENU	Use this to accept an option and enter the Main Menu.
6	On/Off	Press and hold this key for 5 seconds to switch the instrument 'ON'. To switch the instrument 'OFF', press and hold this key.This procedure has been designed to avoid accidental switch 'OFF'.
7	DOWN	Use to scroll down on the LCD display and change sensitivity.
8	LEFT	Use to scroll left on the LCD display.

5.1.3 Start-up

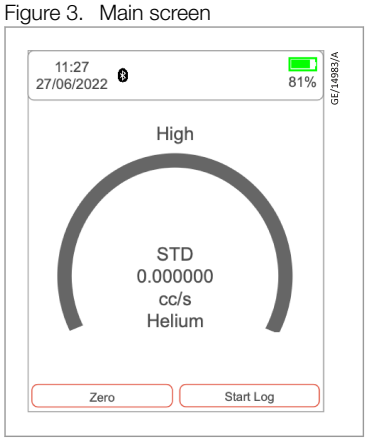
When the On/Off button has been held for five seconds the instrument will switch On, it will start up the pump, load configurations, load user settings, load previous calibrations, load the operating system, zero the instrument and load the communications.

Figure 2. Start-up screen

5.1.4 Main screen

Once the instrument has run through its 'Start-up' routine it will display its normal 'Instrument Main Screen' used when locating gas leaks. Before using the instrument, the various settings should be set and adjusted to suit the application.

Figure 3. Main screen



5.2 Using the instrument

CAUTION: INSTRUMENT CALIBRATION

Before switching On, make sure the ambient air is clean as the instrument automatically Zero's the sensor at switch on. After the instrument has run through its start-up routine, adjust the instrument settings to the desired levels.

Switch the instrument on by pressing and holding the ON/OFF key, after the instrument has completed its Zero routine it will enter the main screen.

Gas leaks tend to occur at pneumatic joints or welded seams, hold the instrument at a 45° angle to the object being tested and drag the probe along the seam or joint at a rate of approximately 25 mm per second.

When a leak is detected the bar graph will start to fill and the frequency of the audio output will increase; this will decrease as the probe moves away from the leak. Return the probe to the suspected leaking area and move slowly along the same area until the leak is located. Once the leak has been

located, the probe should be held at the leak until the numeric reading stabilizes.

The live reading bar offers a graphical indication only and should not be used to measure a leak; you may find that the graph completely fills however the numeric reading will continue to increase.

Variation in temperature, humidity and background gas may result in a constant level being detected on the instrument. To reset to Zero, hold the instrument away from the source of leak or contamination and then press the ZERO key. The instruments display will return to a near zero reading. It is especially important to move away from any toxic substances when Zeroing the instrument to avoid any false negatives which could lead to harm.

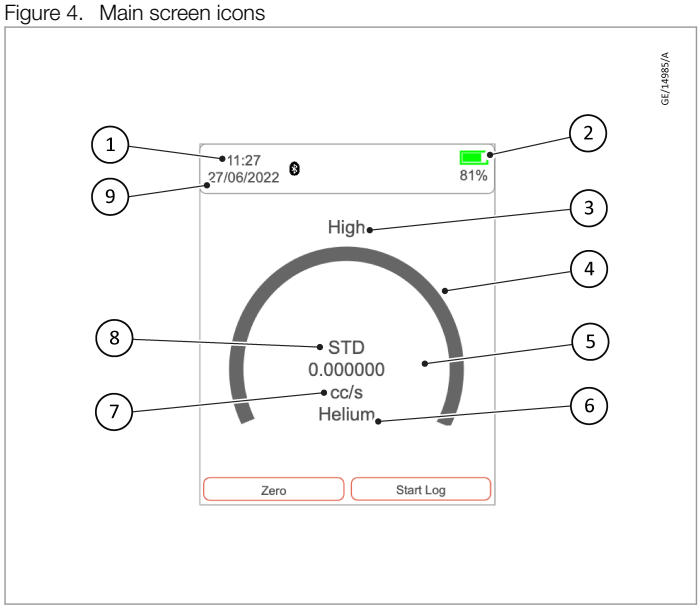
The following things will affect the instruments reading: -

- Breath of the instrument user contains both CO_2 and moisture.
- Barometric air pressure and background temperature.
- Sources of cold and heat.

5.3 Main screen explained

The instrument displays the main screen when it is being used to detect gas, the illustration below explains the various information and icons on the sheet.

Figure 4. Main screen icons



1. *Time*
2. *Battery percentage*
3. *Sensitivity*
4. *Gas reading indicator*
5. *Gas reading*
6. *Current gas selected*
7. *Measurement units*
8. *Reading display*
9. *Date*

5.3.1 Sensitivity

The instrument has three (3) sensitivity levels:, You can adjust the sensitivity by using the ‘UP’ and ‘DOWN’ arrow while on the instrument main screen.

A. High - When set to high, sensitivity will increase in steps of 10.

B. Medium - When set to medium, sensitivity will increase in steps of 100.

C. Low - When set to low, sensitivity will increase in steps of 1000+ (when set to measurement unit: ppm).

5.3.2 Reading display

This is selected in the System Settings. It can be one of three possibilities.

A. Standard readings display will not register any readings below zero.
B. Absolute, will measure both positive and negative number but display all of them as a positive reading.
C. Negative, will measure and display all negative and positive readings.

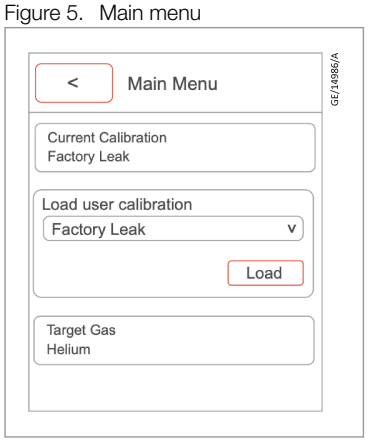
5.3.3 Measurement units

You can find the measurement unit below the gas reading on the main screen. To change the measurement unit, go to the main settings page. Scroll down to 'Measurement Units' and select your required measurement unit. Measurement units only appear when you have the corresponding calibration loaded.

5.4 Main menu

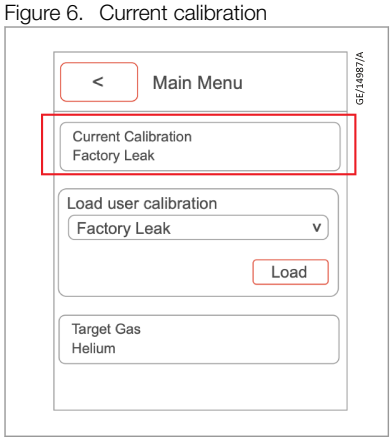
To access the main menu, click the 'MENU/SELECT' button while on the main screen.

Figure 5. Main menu



The current calibration button provides you with information on when the instrument was last calibrated, what gas was used, what the concentration was and what the mV response was.

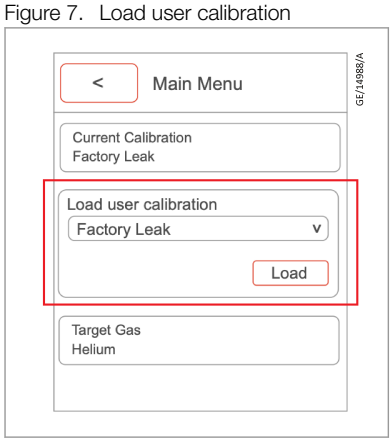
Figure 6. Current calibration



Load user calibration

This option allows you to change between calibrations stored on the instrument. Once you have selected your required calibration, make sure you press load to update the current calibration.

Figure 7. Load user calibration



Target gas

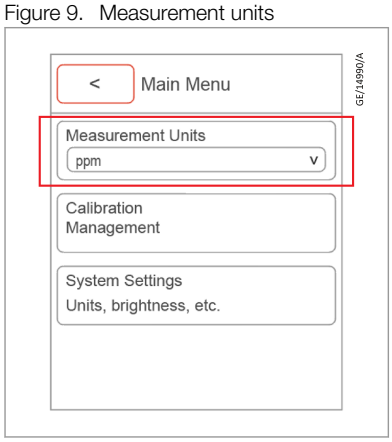
This is where you can choose the desired gas you are looking to detect. This will take you to a page with a drop down for the first letter of the target gas and the name of the target gas.

Figure 8. Target gas

Measurement units

This is where you choose your desired measurement unit. The units available depend on the selected calibration. If the Leak Calibration is selected the units available will be for leak rate. If the Concentration Calibration is selected the units available will be for concentration.

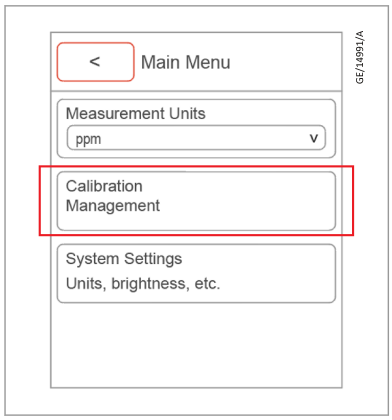
Figure 9. Measurement units



5.5 Calibration management

To access the Calibration Management on your instrument, click the ‘MENU/SELECT’ button while on the main screen to access the Main menu.

Once you are in the Main menu, use the ‘DOWN’ button and click on ‘Calibration Management’ by pressing the ‘MENU/SELECT’ button.



5.5.1 Within calibration management, you can access the following:

5.5.2 Pump calibration

This option will run the pump calibration. The temperature and pressure will be measured and used to set the pump to the correct flow rate.

5.5.3 New calibration

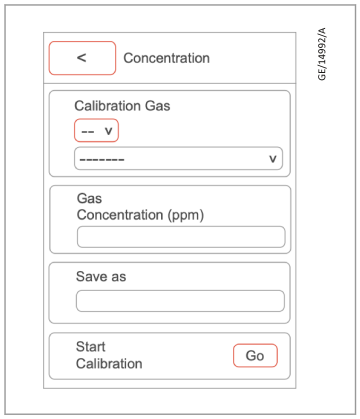
This option will firstly provide you with two options;

A. Concentration calibration (ppm)
B. Leak calibration

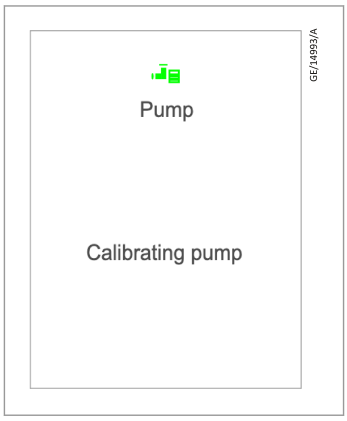
Operation

Follow the process for ‘Concentration calibration (ppm)’ and ‘Leak calibration’ process as below.

Concentration calibration (ppm)

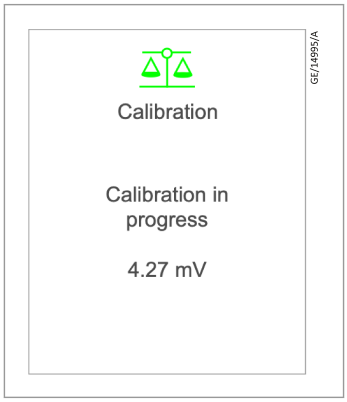


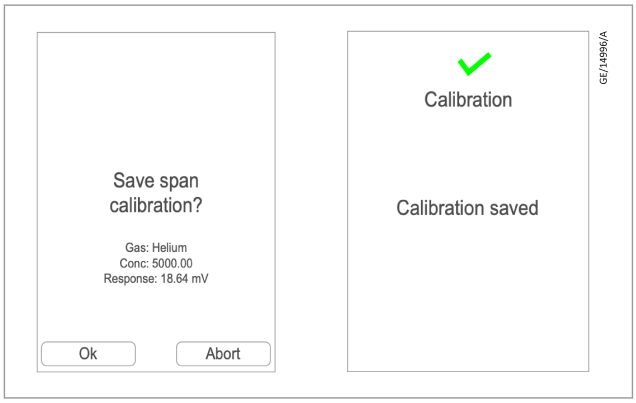
1. Select your chosen gas. To select your chosen gas, select the first letter of the gas you are looking to detect.
2. Press ‘DOWN’ to the next option and search for the calibration gas. Once you have found the calibration, press the ‘MENU/SELECT’ button.
3. After you have confirmed the calibration gas, you will need to type in the gas concentration. Press ‘save as’ and name the calibration. Then press ‘DOWN’ and select ‘go’ to start calibration.
4. The instrument will then start the ‘Pump calibration’.



5. Once the pump calibration has finished, it will ask you to connect span gas. Connect the instrument to your span gas and press ok. You have the option to abort at this time if needed.

6. Once the instrument has stabilised, the calibration will finish. To confirm calibration, press ok, again, you can abort at this stage if required. The calibration will then save to the instrument. This calibration will automatically be added to the user load list.





Leak calibration

The calibration process for leak calibration is very similar to the calibration process for concentration calibration (ppm). The leak calibration will ask you to input the calibration gas and the name you would like to save the calibration as.

The difference is that the leak calibration will ask you to input the leak rate (cc/s) of the calibration gas. Once the pump calibration is complete you will supply the probe with the known leak rate (cc/s) of the calibration gas.

5.5.4 Expired calibration

Once a user's calibration has expired, it will appear in the Expired calibrations drop down. The expired calibrations can be selected. Once selected the calibration can be recreated by clicking 'Recalibrate' (expiration date is defaulted to 12 months).

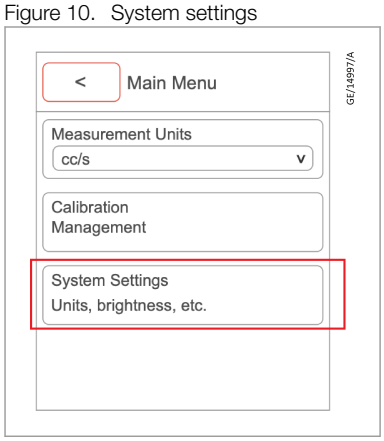
5.5.5 Deleted calibrations

Delete calibration allows you to delete any custom calibrations that have been saved onto the instrument.

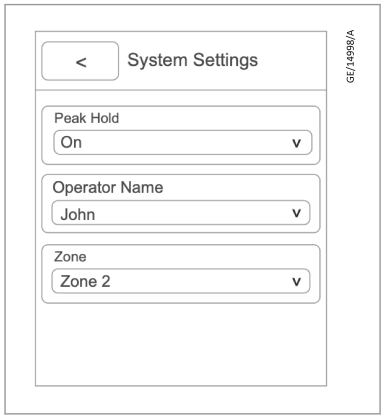
5.6 System Settings

To access system settings, press the 'MENU/SELECT' button while on the instrument main screen. The use the 'DOWN' arrow until you reach 'System Settings'.

Figure 10. System settings



5.6.1 Within the system settings, you can view / adjust the following



5.6.2 Peak hold

When the peak hold is turned on the highest peak detected will be held on the main screen.

5.6.3 The zone

The zone is the location of where you are using the instrument.

5.6.4 Data format (decimals or exponents)

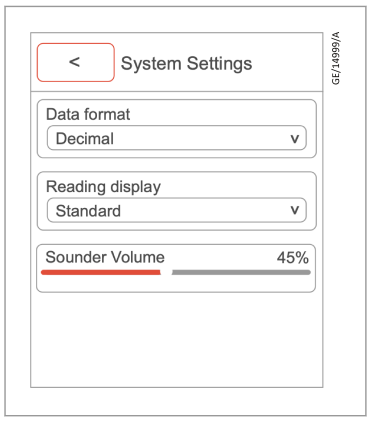
This is where you choose the instruments display reading format, either decimals or exponents.

5.6.5 Readings display

This is selected in the System Settings. It can be one of three possibilities.

A. Standard readings display will not register any readings below zero.
B. Absolute, will measure both positive and negative number but display all of them as a positive reading.
C. Negative, will measure and display all negative and positive readings.

5.6.6 Sounder volume



Allows you to adjust the alarm volume of the instrument (0-100).

5.6.7 Vibrations

This allows you to turn vibration on and off.

5.6.8 Screen backlight

Allows you to adjust screen brightness level (10%-100%).

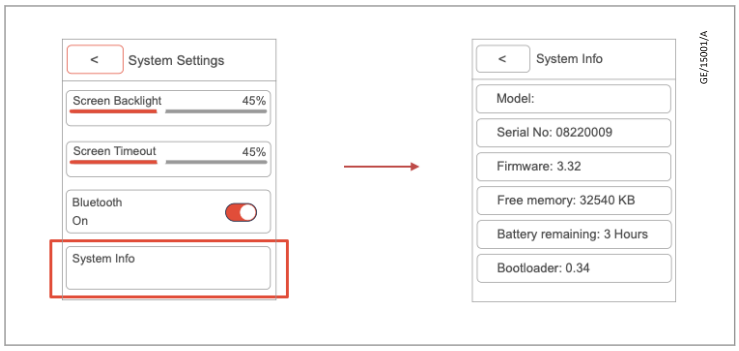
5.6.9 Screen timeout

Allows you to set how long the instrument display is turned on. (Off, 1-10 minutes)

5.6.10 Bluetooth on/off

Use the toggle button to turn the instruments Bluetooth on and off.

5.6.11 System information



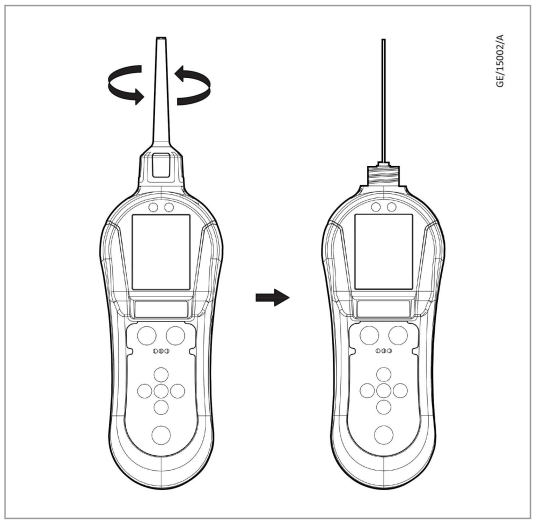
Provides you with: Phoenix Mobilis Ultra model, serial number, firmware, memory, battery remaining and bootloader.

5.7 Probe options

In some applications, the probe cover might restrict access to the area that requires testing. You can remove the probe cover by twisting it off from the instrument body (anti-clockwise). Once the probe cover is removed, take care when using the instrument as the instrument probe is delicate.

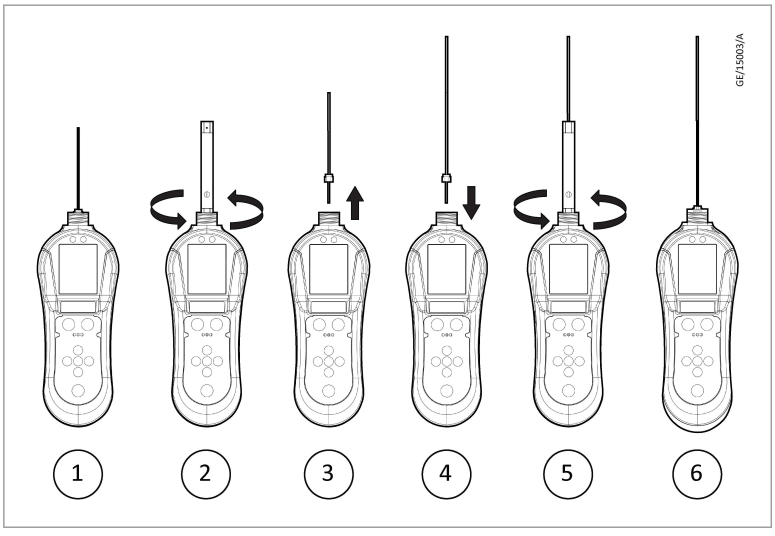
Removing the probe cover can help with pinpointing a leak more accurately by using the probe sleeve.

Operation



Some applications might require a longer probe to gain access to pneumatic joints and seams. The instrument is supplied with a 20 cm flexible probe that can be changed by the user. To change the probes, following the below steps:

1. Turn the instrument off.
2. Carefully remove the 10 cm probe from the instrument body by using the box spanner provided in the case kit (the box spanner will fit over the brass nut).
3. Take your 20 cm flexible probe and connect it to the instrument body by using the box spanner.



To refit the short or the long probe follow the steps above but in reverse order.

CAUTION: OPERATION HAZARD

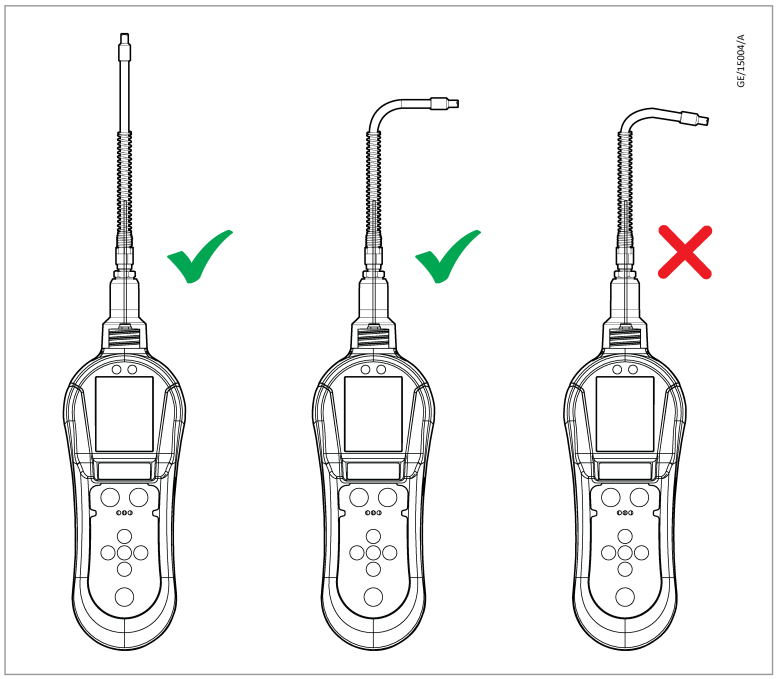
When using the box spanner to tighten the probe nut, make sure the nut is firmly tightened however do not use additional tools as the tread may become damaged.

Should a probe become blocked, use dry, clean compressed air to blow out the blockage from the instrument end of the probe. Make sure probe has been removed first.

The instrument has been factory calibrated using the standard short capillary which sets a certain flow rate into the detector.

CAUTION: FLEXIBLE PROBE HAZARD

Do not bend the flexible probe more than 90 degrees as this pushes the internal tube outside the protective sleeve.

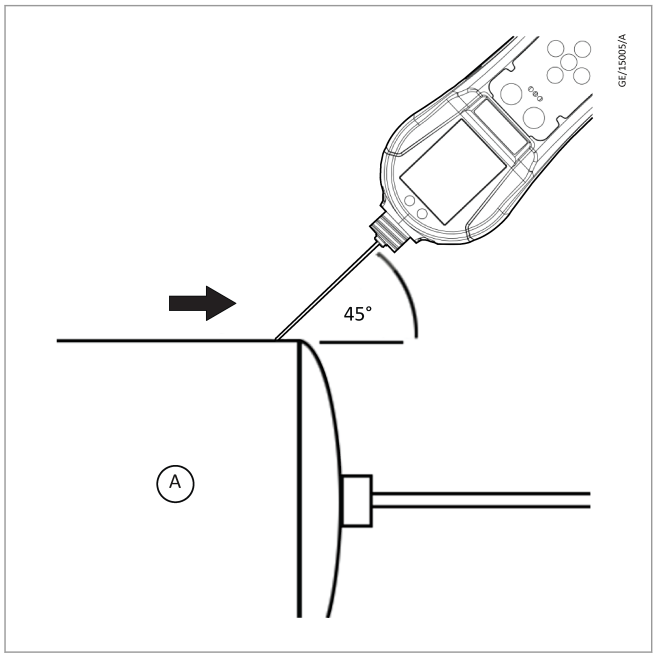


The long capillary by nature of its construction has a different flow to improve the time response in detection. This will change the calibration of the instrument when the long probe is used instead of the short capillary. Thus, the long probe is only to be used in finding leaks in difficult places where the standard short probe cannot reach. The readings given by the long probe are only qualitative and the reading given by the display is only to be taken as being relative to another value given by another leak site while using the long probe.

5.8 Detecting leaks

Hold the instrument in one hand and draw the instrument probe along the area that requires testing at approximately 25 mm per second. When a leak is detected, retrace the route at a slower rate until the leak is located. Once the leak is located, hold the instrument over the leak until the measurement stabilizes. If you would like to log this reading you can click the 'B' button to Start Log. This will start a data logging session. To turn Off the log when you are finished use the 'B' button again to Stop Log. The readings will then be saved to your instrument. You can adjust the measurement sensitivity by

using the ‘UP’ and ‘DOWN’ button. When detecting very small leaks or detecting less sensitive gases, a rate of 10 mm per second might be required.



The probe cover can be removed to allow better access to restricted areas, if the probe cover is removed the following points should be noted: -

- The probe sleeve needs to be added to the probe this ensures a 1 mm gap is maintained between the probe and the surface being tested.
- Avoid bending the inner probe as this will affect the instrument’s accuracy.
- Avoid placing the probe in liquid or dirt as the probe can become blocked.
- Care should also be taken to make sure the brass sensor housing component remains at a constant temperature. Avoid touching the brass sensor block with fingers.
- The instrument can detect changes in Humidity and Carbon dioxide, therefore avoid breathing on the probe.

6 Disposal

Disposal of the instrument, its components and any used batteries shall be in accordance with local and national safety and environmental requirements. This includes the European WEEE (Waste Electrical and Electronic Equipment) directive. Please contact us for more information.

7 Service

7.1 Return the equipment or components for service

Before you send your equipment to us for service or for any other reason, you must send us a completed Declaration of Contamination of Vacuum Equipment and Components – Form HS2. The HS2 form tells us if any substances found in the equipment are hazardous, which is important for the safety of our employees and all other people involved in the service of your equipment. The hazard information also lets us select the correct procedures to service your equipment.

We provide instructions for completing the form in the Declaration of Contamination of Vacuum equipment and Components – Procedure HS1.

Download the latest documents from *leybold.com/en/downloads/download-documents/declaration-of-contamination/*, follow the procedure in HS1, fill in the electronic HS2 form, print it, sign it, and return the signed copy to us.

NOTICE:

If we do not receive a completed HS2 form, your equipment cannot be serviced.

8 Accessories

Table 3. Accessories

Description	Part number
Phoenix Mobilis Ultra	253010v02
Communication Interface Dongle	253014v02
Flexible probe 200 mm	253015v02
Probe sleeve (pack of 5)	253016v02
Capillary probe - standard (10 mbar restriction)	253017v02
Nozzle	253018v02
Capillary probe - short (for 200mm flexible probe)	253019v02

P20010558A

EU Declaration of Conformity

This declaration of conformity is issued under the sole responsibility of the manufacturer:

Leybold GmbH
Bonner Strasse 498
D-50968 Köln
Germany

Documentation Officer
T: +49(0) 221 347 0
documentation@leybold.com

The product specified and listed below:

- ***Portable hand-held gas leak detector***
- ***Phoenix Mobilis Ultra 253010V02***

Is in conformity with the relevant Union harmonisation legislation:

2014/30/EU	Electromagnetic compatibility (EMC) directive Class B Emissions, Basic Immunity
2006/66/EC	Batteries directive
2011/65/EU	Restriction of certain hazardous substances (RoHS) directive as amended by Delegated Directive (EU) 2015/863

Based on the requirements of relevant harmonised standards and technical documentation:

EN 61010-1:2010 +A1:2019	Safety requirements for electrical equipment for measurement, control and laboratory use. General requirements
EN 61326-1:2013	Electrical equipment for measurement, control and laboratory use. EMC requirements. General requirements
EN IEC 63000:2018	Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

This declaration, based on the requirements of the listed Directives and EN ISO/IEC 17050-1, covers all product serial numbers from this date on: *2023-10-19*

You must retain the signed legal declaration for future reference
This declaration becomes invalid if modifications are made to the product without prior agreement.

Ian Keech – VP Engineering, Scientific Vacuum Division Burgess Hill

Rene Rose Stueber – General Manager Product Company Cologne

P20010558A

Declaration of Conformity

Leybold GmbH
Bonner Strasse 498
D-50968 Köln
Germany

Documentation Officer
Innovation Drive
Burgess Hill
West Sussex
RH15 9TW
documentation@leybold.com

This declaration of conformity is issued under the sole responsibility of the manufacturer.

- ***Portable hand-held gas leak detector***
- ***Phoenix Mobilis Ultra 253010V02***

The object of the declaration described above is in conformity with relevant statutory requirements:

Electromagnetic Compatibility Regulations 2016
Class B Emissions, Basic Immunity

Batteries and Accumulators (Placing on the Market) Regulations 2008

Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012

Relevant designated standards or technical specifications are as follows:

EN 61010-1:2010 +A1:2019	Safety requirements for electrical equipment for measurement, control and laboratory use. General requirements
EN 61326-1:2013	Electrical equipment for measurement, control and laboratory use. EMC requirements. General requirements
EN IEC 63000:2018	Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

This declaration, based on the requirements of the listed Statutory Instruments and EN ISO/IEC 17050-1, covers all product serial numbers from this date on: *2023-10-19*

You must retain the signed legal declaration for future reference
This declaration becomes invalid if modifications are made to the product without prior agreement.

Signed for and on behalf of Leybold GmbH

Ian Keech – VP Engineering, Scientific Vacuum Division
Burgess Hill

Rene Rose Stueber – General Manager
Product Company Cologne

ADDITIONAL LEGISLATION AND COMPLIANCE INFORMATION

EMC (EU, UK): Industrial equipment

Caution: This equipment is not intended for use in residential environments and may not provide adequate protection to radio reception in such environments.

RoHS (EU, UK): Material Exemption Information

This product is compliant with the following Exemptions
Annex III:

- 6(c) Copper alloy containing up to 4% **lead** by weight

REACH (EU, UK)

This product is a complex article which is not designed for intentional substance release. To the best of our knowledge the materials used comply with the requirements of REACH. The product manual provides information and instruction to ensure the safe storage, use, maintenance and disposal of the product including any substance based requirements.

Article 33.1 Declaration (EU, UK)

This product contains Candidate List Substances of Very High Concern above 0.1%ww by article as clarified under the 2015 European Court of Justice ruling in case C-106/14.

- 1,3-propanesultone (CAS 1120-71-4), 0.04wt%
  This substance is sealed within the case of the compact lithium coin cell battery and is essential to the long life and reliable performance of the battery.
- Lead (Pb)
  This substance is present in certain brass components.

TSCA PBTs (US)

Regulation of Persistent, Bioaccumulative, and Toxic Chemicals Under TSCA Section 6(h)
The product does not knowingly or intentionally contain substances in contravention with the above requirements.

Additional Applicable Requirements

The product is in scope for and complies with the requirements of the following:

2012/19/EU	Directive on waste electrical and electronic equipment (WEEE)
CCR Title 22 Division 4.5 Chapter 33: Perchlorates Batteries	This equipment may contain a lithium battery which requires notification for the presence of Perchlorate Material: special handling may apply, refer to www.dtsc.ca.gov/hazardouswaste/perchlorate/

材料成分声明
China Material Content Declaration

	有害物质 Hazardous Substances					
部件名称 Part name 	铅 Lead (Pb)	汞 Mercury (Hg)	镉 Cadmium (Cd)	六价铬 Hexavalent Chromium (Cr VI)	多溴联苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)
铜接头 Brass connectors	X	O	O	O	O	O
电池 Battery	X	O	O	O	O	O

O: 表示该有害物质在该部件的所有均质材料中的含量低于 GB/T 26572 标准规定的限量要求。
O: Indicates that the hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement in GB/T 26572.

X: 表示该有害物质在该部件的至少一种均质材料中的含量超出 GB/T26572 标准规定的限量要求。
X: Indicates that the hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement of GB/T26572.

Leybold

Pioneering products. Passionately applied.

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